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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/669,098	09/25/2000	BILLY G MOON	062891.0466	3457

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EXAMINER
LY, ANH VU H

ART UNIT	PAPER NUMBER
2667	

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/669,098	MOON ET AL.
	Examiner	Art Unit	
	Anh-Vu H Ly	2667	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*14 September 2004*</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-15,17-25,27-34 and 36-39* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-15,17-25,27-34 and 36-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>September 14, 2004</u>.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   This communication is in response to applicant's amendment filed September 14, 2004.

The proposed amendment to the claims has been entered. Claims 1-5, 7-15, 17-25, 27-34, and

36-39 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2.   Claims 1, 7-11, 17-21, 27-31, and 36-39 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Helm et al (US Patent No. 5,719,871) in view of Padovani et al (US Patent

No. 6,151,502). Hereinafter, referred to as Helm and Padovani.

With respect to claims 1, 11, 21, and 31, Helm discloses in Fig. 2, a diversity radio

communication system comprising plurality of base stations 202-204 communicating

simultaneously with the communication unit 201 (a wireless interface operable to receive

information from a mobile unit using a wireless link between the wireless interface and the

mobile unit). Further, as shown in Fig. 2, the base stations 202-204 transmit the encoded

information to the comparator via the wire lines 212-214 (a network interface operable to

communicate the graded packet to the core network). Helm discloses in Fig. 3, a comparator

performing diversity voting on the encoded data frames (generate a graded packet encoding the

information and the metric, wherein the metric enables elements of a core packet network to

select between multiple packets encoding information). Herein, the encoded data frames including the data words and quality metrics (determining a metric associated with the wireless link). Helm does not disclose the processor is operable to monitor and determine a metric associated with the second wireless link, between the wireless interface and a second mobile unit, has exceeded a predetermined threshold, register with a selection group, and instruct the wireless interface to being receiving information from the second mobile unit. Padovani discloses (col. 3, lines 26-28) that the pilot strength measurement message received by the base stations in communication with the mobile station (second mobile unit) (monitor and determine that a metric associated with the second wireless link between the wireless interface and the second mobile unit). Padovani discloses (col. 3, lines 51-58) that if the pilot energy value, Pi, exceeds the threshold (metric exceeded a predetermined threshold), it is added to the revised active set (selection group) (register with a selection group associated with the second mobile unit). The base station controller sets up communications with the mobile station in accordance with the revised active set (instruct the wireless interface to being receiving information from the second mobile unit). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the features of monitoring, determining, and revising the active set in Helm's system, as suggested by Padovani, to perform soft hand-off in a wireless communication system.

With respect to claims 7, 17, 27, and 36, Helm discloses (col. 5, lines 1-8) that the base stations 202-204 determine signal quality metrics for all of the code words. The signal quality metrics comprise error statuses; however, signal quality metrics might comprise SNR, RSSI,

BER, or path metric values resulting from Viterbi decoding of trellis encoded signals (wherein the metric is a selected one of a signal strength, signal to noise ratio, bit error rate, and carrier to noise ratio).

With respect to claims 8, 18, 28, and 37, Helm discloses in Fig. 3, the encoded information including the code words and quality metrics such as E11, E21, E31, ET1, ET2, and ET3 to enable the comparator to select the highest quality code words from among received code words (processor is operable to encode an identifier in the graded packet, wherein the identifier enables the elements of the core packet network to match the graded packet with other graded packets encoding the information).

With respect to claims 9, 19, 29, and 38, Helm discloses in Fig. 3, the code words in the data frames including the information communicated from the communication unit 201 to the base stations (wireless interface is operable to receive information from the mobile unit as a packet encoding the information).

With respect to claims 10, 20, 30, and 39, Helm discloses in Fig. 2, a diversity radio communication system for communicating voice over the air (information comprising voice information associated with a communication session).

3.   Claims 1, 8-11, 18-21, 28-31, and 27-29 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Derango et al (US Patent No. 5,867,491) in view of Padovani et al (US Patent

No. 6,151,502). Hereinafter, referred to Derango and Padovani.

With respect to claim 1, 11, 21, and 31, Derango discloses in Fig. 1 a multi-channel

simulcast system comprising a number of remote sites 41-43, wherein, each remote site

comprising a plurality of transceivers 45 for communicating wirelessly with subscribers (not

shown) (a wireless interface operable to receive information from a mobile unit using a wireless

link between the wireless interface and the mobile unit). Derango discloses (col. 4, lines 30-40)

that concurrently, other radio channels assigned to the same packet voting server 25 may become

active, with the remote sites sending their received information packet stream to the voting

server 25. All packets (generate a graded packet encoding the information and the metric,

wherein the metric enables elements of a core packet network to select between multiple packets

encoding the information) sent to the voting servers 25 must have either an implicit or explicit

indication of radio channel number, voting session identifier, or information packet stream

number as well as an indication of position of the packet (determining a metric as considered by

the examiner) within the packet stream on the air interface (associated with the wireless link).

As shown in Fig. 1, each remote site including a site controller/WAN access for connecting to

the packet voting servers 25 (a network interface operable to communicate the graded packet to

the core packet network). Derango does not disclose the processor is operable to monitor and

determine a metric associated with the second wireless link, between the wireless interface and a

second mobile unit, has exceeded a predetermined threshold, register with a selection group, and

instruct the wireless interface to being receiving information from the second mobile unit.

Padovani discloses (col. 3, lines 26-28) that the pilot strength measurement message received by the base stations in communication with the mobile station (second mobile unit) (monitor and determine that a metric associated with the second wireless link between the wireless interface and the second mobile unit). Padovani discloses (col. 3, lines 51-58) that if the pilot energy value, Pi, exceeds the threshold (metric exceeded a predetermined threshold), it is added to the revised active set (selection group) (register with a selection group associated with the second mobile unit). The base station controller sets up communications with the mobile station in accordance with the revised active set (instruct the wireless interface to being receiving information from the second mobile unit). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the features of monitoring, determining, and revising the active set in Derango's system, as suggested by Padovani, to perform soft hand-off in a wireless communication system.

With respect to claims 8, 18, 28, and 37, Derango discloses (col. 4, lines 48-53) that for each voting session in the packet voting server, one vote occurs on all the packets from the same position (an identifier) in the packet stream from the same radio channel (processor is operable to encode an identifier in the graded packet, wherein the identifier enables the elements of the core packet network to match the graded packet with other graded packets encoding the information).

With respect to claims 9, 19, 29, and 38, Derango discloses in Fig. 1, a multi-channel simulcast system for transmitting packets of data. Therefore packets include the communicated

information (wireless interface is operable to receive the information from the mobile unit as a

packet encoding the information).

With respect to claims 10, 20, 30, and 39, Derango discloses in Fig. 1, a multi-channel

simulcast system comprising a number of remote sites 41-43, wherein, each remote site

comprising a plurality of transceivers 45 for communicating wirelessly with subscribers. Herein,

voice, data or multimedia may be included (information comprising voice information associated

with a communication session).

4.   Claims 2-5, 12-15, 22-25, and 32-34 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Helm et al (US Patent No. 5,719,871) and Padovani et al (US Patent No.

6,151,502) further in view of Bomar et al (US Patent No. 6,535,738). Hereinafter, referred to as

Helm, Padovani, and Bomar.

With respect to claims 2-4, 12-14, 22-24, and 32-33, Helm discloses in Fig. 2, a diversity

radio communication system comprising plurality of base stations 202-204 communicating

simultaneously with the communication unit 201. Helm does not disclose the base station

monitors the metric associated with the wireless link; determine that the metric associated with

the wireless link has degraded below a predetermined threshold; withdraw from a selection

group associated with the mobile unit; and instruct the wireless interface to discontinue receiving

further information from the mobile unit. Bomar discloses (col. 5, lines 21-33) that the base

station (CDMA system, herein comprising spreading code such as Walsh code and passband

frequency) receives signal quality measurements from the mobile station (herein the base station

monitors the received measurements associated with the wireless link) and determines which

base stations should be in the active set (selection group) based on the received measurements.

Whereby, the signal quality measurements are being compared to different level of thresholds

(col. 2, line 58 – col. 5, line 18) (determine that the metric associated with the wireless link has

degraded below a predetermined threshold). Upon making a determination in accordance to the

described technique (col. 2, line 58 – col. 5, line 18), the primary base station or second base

station transmits an message indicating to the mobile station which base stations should be

included in the active set (processor to instruct the mobile unit to discontinue receiving

information from the base station on a Walsh code/frequency combination). Herein, if the

measured signal quality associated with a base station is below a threshold that base station is not

included in the active set (withdraw and instruct the wireless interface to discontinue receiving

information from the mobile unit). It would have been obvious to one having ordinary skill in

the art at the time the invention was made to include the features of monitoring, determining,

withdrawing and instructing the wireless interface from receiving information transmitted by the

mobile unit in Helm's system, as suggested by Bomar, to improve system capacity.

With respect to claims 5, 15, 25, and 34, Helm discloses in Fig. 2, base stations 202-204

concurrently receive information from the communication unit 201. Herein, such base stations

are considered as a selection group by the examiner (selection group comprising a plurality of

BTS each receiving information from the mobile unit).

Conclusion

5.   Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with

the fee set forth in 37 CFR 1.17(p) on September 14, 2004 prompted the new ground(s) of

rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See

MPEP § 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

        A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

6.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Anh-Vu H Ly whose telephone number is 571-272-3175. The

examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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